Yvann LE FAY

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Education

Institut Polytechnique de Paris & University of Jyväskylä — Orsay, France & Jyväskylä, Finland
Ph.D. *in Applied Mathematics, jointly supervised by Nicolas Chopin & Matti Vihola* — *2024 - 2027*
- Thesis title: Methodological and computational aspects of Sequential Monte Carlo algorithms.

École Normale Supérieure Paris-Saclay - Institut Polytechnique de Paris — Orsay, France
M.Sc. *in Statistics and Machine Learning, MVA* — *2023 - 2024*
- Optimal transport, learning for time series, probabilistic graphical models, convex optimization, learning & generation by sampling, bayesian machine learning, graphs in machine learning

ENSAE - Institut Polytechnique de Paris — Palaiseau, France
M.Eng. *in Statistics and Financial Mathematics* — *2020 - 2024*
- Sequential Monte Carlo methods, advanced statistics, stochastic calculus, linear time series, econometrics, pricing & hedging of financial derivatives, algorithmic trading

Experience

Center for research in Economics and Statistics (CREST) — Palaiseau, France
Pre-doctoral internship, supervised by Nicolas Chopin — *May 2024 - Sep. 2024*

Aalto University — Espoo, Finland
Research internship, supervised by Adrien Corenflos and Simo Särkkä — *May 2023 - Sep. 2023*
- Proposed the first probabilistic numerics solver for Stochastic Differential Equations (SDEs) in the additive-noise setting using Gaussian filtering methods. Preprint version: abs/2401.03338. Published version: Submitted to Bayesian Analysis. Presented at BAYSM 2023 (ISBA).
- Companion-code of the article (JAX): github.com/ylefay/bayesianSDEsolver.

National Institute for Research in Digital Science and Technology (INRIA) — Palaiseau, France
Research internship, supervised by Demian Wassermann — *Jan. 2023 - Mar. 2023*
- Worked on variational inference methods.

Lombard Odier Investment Managers' (LOIM) - Multi-Asset — Geneva, Switzerland
Off-cycle internship as a quantitative researcher, supervised by Serge Tabachnik — *Jun. 2022 - Nov. 2022*
- Contributed to a proprietary scalable and highly modular framework for backtesting cross-asset trading strategies. Researched, implemented and backtested strategies (ARPs, Vol, Momentum). Implemented data mining procedures and modern regression methods. Contributed to a statistics and reporting library. Received a renewal offer.

Awards & Grants

French-Finnish PhD Cotutelle scholarship - the Magnus Ehrnrooth Foundation
france.fi/wp-content/uploads/2023/10/Magnus-Ehrnrooth-FI-FR-PhD-Cotutelle.pdf — *2024*
- Received a doctoral grant of 24 000 euros, plus 2 000 euros for travel expenses, per year. The Magnus Ehrnrooth Foundation promotes scientific collaboration between France and Finland by financing international PhD cotutelles.

Accessit in regional math olympiads
euler.ac-versailles.fr/IMG/pdf/olympiades_equipe_2016_palmares.pdf — *2016*

Hall of fame - Microsoft Security Response Center
msrc.microsoft.com/update-guide/acknowledgement/archive — *2015*
- Three times acknowledged for having reported security vulnerabilities.

Programming Skills

Languages: Python, Ocaml, Wolfram Language, SQL
Technical stack: Git, Linux, Bloomberg, Excel
Libraries and others: JAX, PySpark, Dask, blp

Others

Languages: French, English
Citizenships: French, Swiss